



Department of Commerce

Safety & Buildings Division

201 West Washington Avenue

P.O. Box 2658

Madison, WI 53701-2658

Evaluation # 200219-W

## Wisconsin Building Products Evaluation

Material

ADI Series Power Joist®  
Wood I-Joist

Manufacturer

Anthony-Domtar, Inc.  
1195 Peoples Road  
Sault Ste. Marie, Ontario Canada P6B 6H3

### SCOPE OF EVALUATION

**GENERAL:** This report evaluates the wood I-Joists (ADI Series Power Joist®), manufactured Anthony-Domtar, Inc.

This review includes the cited **Comm** code requirements below in accordance with the current **Wisconsin Uniform Dwelling Code (for 1 & 2 family dwellings):**

#### Structural:

- **Wood I-Joists (ADI Series)** were evaluated for use as floor joists, roof joists, rim joists and structural rim joists in accordance with **s. Comm 21.02(3)(a)2.** and **s. Comm 21.19.**

This review includes the cited **Comm** code requirements below in accordance with the current **Wisconsin Building and Heating, Ventilating and Air conditioning Code:**

#### Structural:

- **Wood I-Joists (ADI Series)** were evaluated for use as floor joists, roof joists, rim joists and structural rim joists in accordance with **s. Comm 53.60** and **s. Comm 53.61(2).**



On file with the department:

- APA Report T2001P-41, dated June 26, 2001;
- APA Report T2002P-3, dated January 21, 2002 and APA Report T2002P-19, dated April 4, 2002 containing qualification testing of I-Joist in accordance with ASTM D5055 and the Quality Assurance Policy for APA EWS Performance-Rated I-Joists, signed and sealed by Borjen Yeh, P.E.

The targeted design properties for this qualification are given in **Table 2**, based on the *Performance Standard* for APA EWS I-Joists, PRI-400. **NOTE:** The tests and results listed below cover both the current WI Building Codes **Comm** and future **IBC** requirements.

**Table 2. Design Properties for Anthony-Domtar I-Joists**

Joist Series	EI 10 <sup>6</sup> lbf-in. <sup>2</sup>	M lbf-ft.		V <sup>(a)</sup> lbf	IR <sup>(b)</sup> lbf	ER <sup>(c)</sup> lbf	K 10 <sup>6</sup> lbf
9-1/2" ADI-40	193	2,355		1,120	2,160	1,080	4.94
11-7/8" ADI-40	330	3,145		1,420	2,500	1,200	6.18
14" ADI-40	482	3,860		1,710	2,500	1,200	7.28
16" ADI-40	657	4,535		1,970	2,500	1,200	8.32
9-1/2" ADI-60	231	3,245		1,120	2,160	1,080	4.94
11-7/8" ADI-60	396	4,638		1,420	2,500	1,200	6.18
14" ADI-60	584	5,320		1,710	2,500	1,200	7.28
16" ADI-60	799	6,250		1,970	2,500	1,200	8.32
Joist Series	EI 10 <sup>6</sup> lbf-in. <sup>2</sup>	M lbf-ft.		V <sup>(a)</sup> lbf	IR <sup>(b)</sup> lbf	ER <sup>(c)</sup> lbf	K 10 <sup>6</sup> lbf
		Non-repetitive	Repetitive <sup>(d)</sup>				
11-7/8" ADI-80	547	6,130	6,559	1,420	2,760	1,280	6.18
14" ADI-80	802	7,525	8,052	1,710	3,020	1,280	7.28
16" ADI-80	1,092	8,845	9,464	1,970	3,020	1,280	8.32

<sup>(a)</sup> Shear capacity with a minimum bearing length of 4 inches. For shear capacities over 1,550 lbf, bearing stiffeners are required.

<sup>(b)</sup> Intermediate reaction with a minimum bearing length of 3-1/2 inches without bearing stiffeners.

<sup>(c)</sup> End reaction with a minimum bearing length of 1-3/4 inches without bearing stiffeners.

<sup>(d)</sup> Moment capacity (M) when I-Joists are in contact or spaced not more than 24 inches on centers, are not less than 3 in number, and are joined by floor, roof, or other load distributing elements adequate to support the design load, repetitive moment shall be permitted for use in design.

## **LIMITATIONS OF APPROVAL**

Building Code Applicable to Projects Submitted for Review Prior to July 1, 2002: The **Comm** limitations below are in accordance with the current **Wisconsin Building and Heating, Ventilating and Air Conditioning Code**.

The **IBC** limitations below are in accordance with the **Wisconsin Amended IBC 2000 Code (effective 7/01/02)**.

**Wood I-Joists** (ADI-40, -60 and –80 Series Power Joist®) Allowable design properties must be as noted in **Table 2**. Allowable moment and shear values are permitted to be increased for duration of load in accordance with the applicable code.

The use of fire-retardant or preservative chemical treatments with Wood I-Joists (ADI-40, -60 and –80 Series Power Joist ®) is beyond the scope of this evaluation.

Wood I-Joists (ADI-40, -60 and –80 Series Power Joist ®) shall be installed in accordance with the applicable code, the approved construction documents, this evaluation, and the manufacturer's installation instructions. If the manufacturer's installation instructions conflict with this evaluation, this evaluation shall be null and void.

Wood I-Joists (ADI-40, -60 and –80 Series Power Joist ®) has not been evaluated for use as a component in a fire-rated assembly, and is beyond the scope of this evaluation.

Bracing, connections (nailed or bolted), stiffener location, hole size and location(s) in the web shall be per the manufacturer's installation instructions.

This approval will be valid through December 31, 2007, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

### **DISCLAIMER**

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Revision Date:

Approval Date: May 29, 2002

By: \_\_\_\_\_

Lee E. Finley, Jr.  
Product & Material Review  
Integrated Services Bureau